

# V&V Reference Report

## L2 ASCDS Version : 7.6.9

Observation 2572 - L2 Version 001  
Chandra X-Ray Center

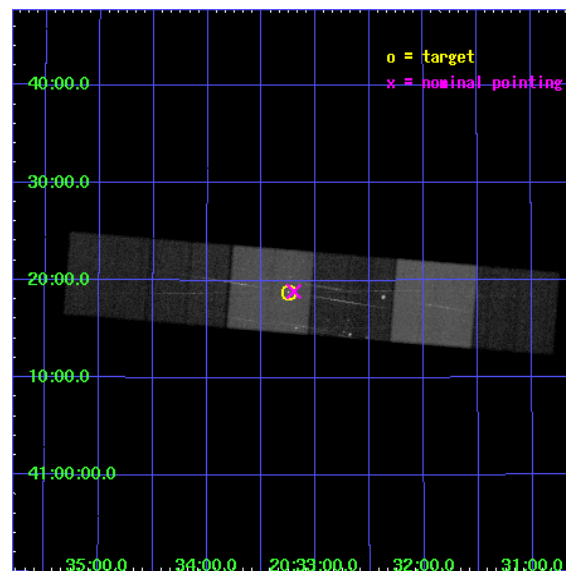
L2 Processing Date : Sep 26 2006

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# 1 Front

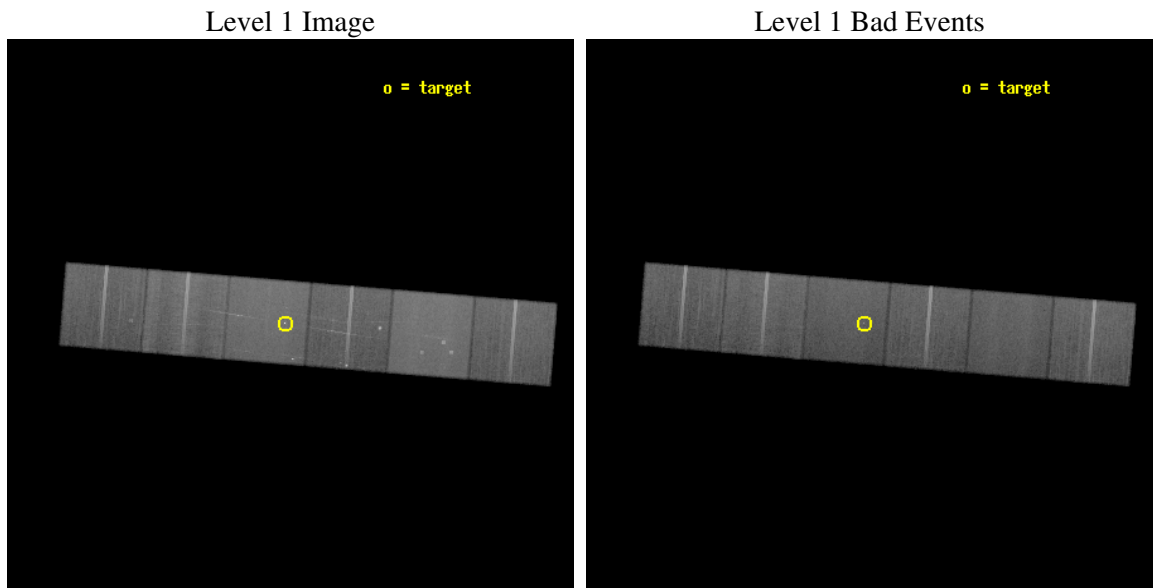
seq_num	200180
obs_id	2572
title	OBSERVING FAST AND MASSIVE HOT STAR WINDS IN THE CYG OB2 ASSOCIATION
observer	Dr. Joseph Cassinelli
object	CYG OB2 8A
dtcycle	0
cycle	P
ra_targ	308.312917
dec_targ	41.314028
ra_nom	308.30007419392
dec_nom	41.31496155405
roll_nom	184.66510472161
revision	2
ontime	65955.158774018
livetime	65119.994840193
ontime4	65958.399754286
ontime5	65958.399754286
ontime6	65955.158774018
ontime7	65955.158774018
ontime8	65955.158774018
ontime9	65951.917803764
l2events	604695



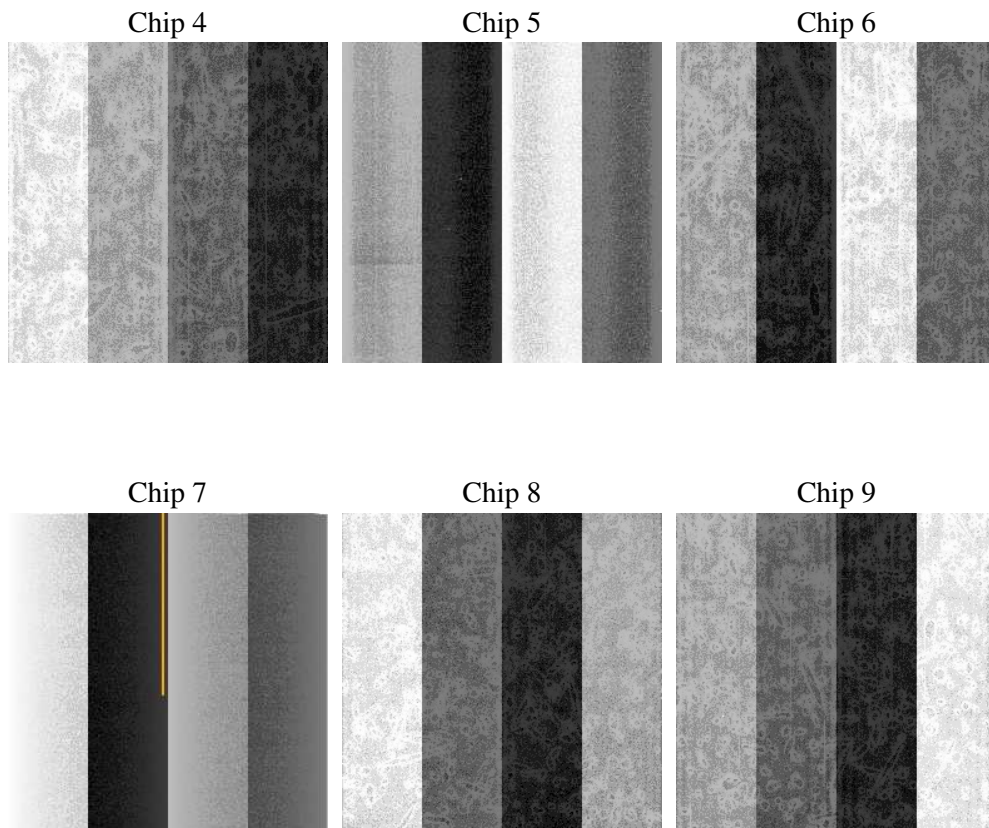
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0
ascdsver	7.6.9
caldsver	3.2.3
date	2006-09-26T19:49:18
revision	2

sched_exp_time	66000.000000
ontime	65960.938442975
ontime4	65964.179393321
ontime5	65964.179393321
ontime6	65960.938413054
ontime7	65960.938442975
ontime8	65960.938442975
ontime9	65960.938462883
l1events	2636094

### 2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	398809	526083	385609	498634	465891	361068
rejected events	350131	295342	323377	296398	363250	314337
rejected %	87%	56%	83%	59%	77%	87%

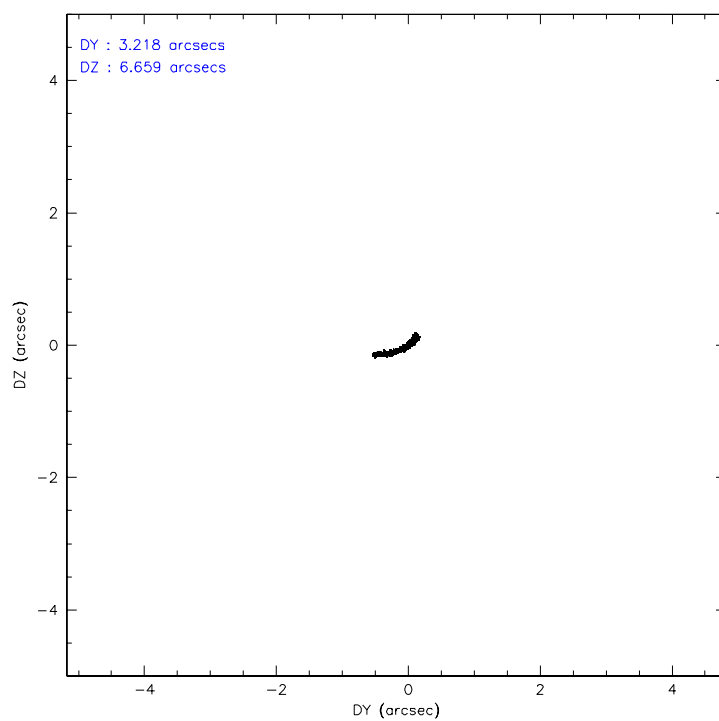
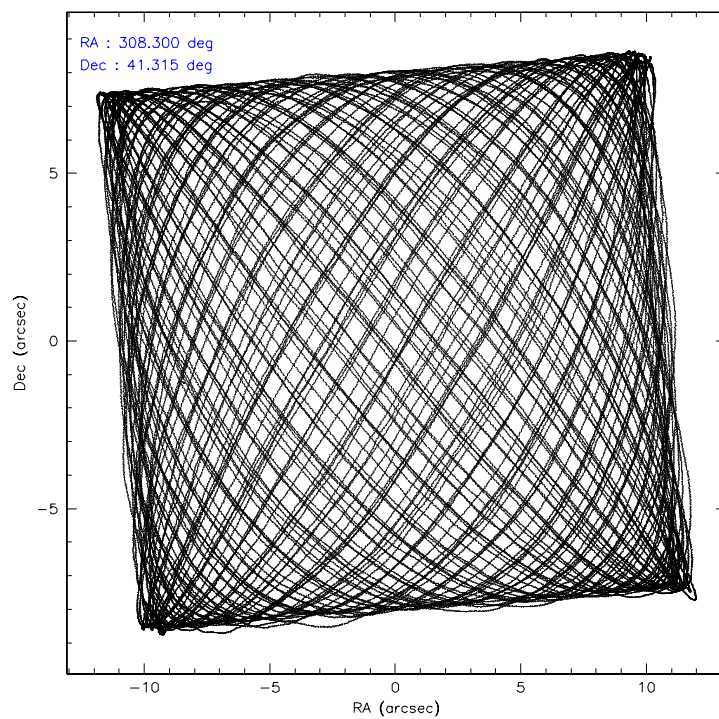
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	20479	15277	31904	14723	35419	19513
	5%	2%	8%	2%	7%	5%
grade 1 events	194	384	188	282	243	175
	0%	0%	0%	0%	0%	0%
grade 2 events	11555	71972	11094	50328	21677	9440
	2%	13%	2%	10%	4%	2%
grade 3 events	4349	5632	4890	11876	10701	4470
	1%	1%	1%	2%	2%	1%
grade 4 events	4032	5438	4867	11423	9979	4234
	1%	1%	1%	2%	2%	1%
grade 5 events	14084	25592	16352	32652	20765	16710
	3%	4%	4%	6%	4%	4%
grade 6 events	8265	132441	9479	113890	24866	9078
	2%	25%	2%	22%	5%	2%
grade 7 events	335851	269347	306835	263460	342241	297448
	84%	51%	79%	52%	73%	82%

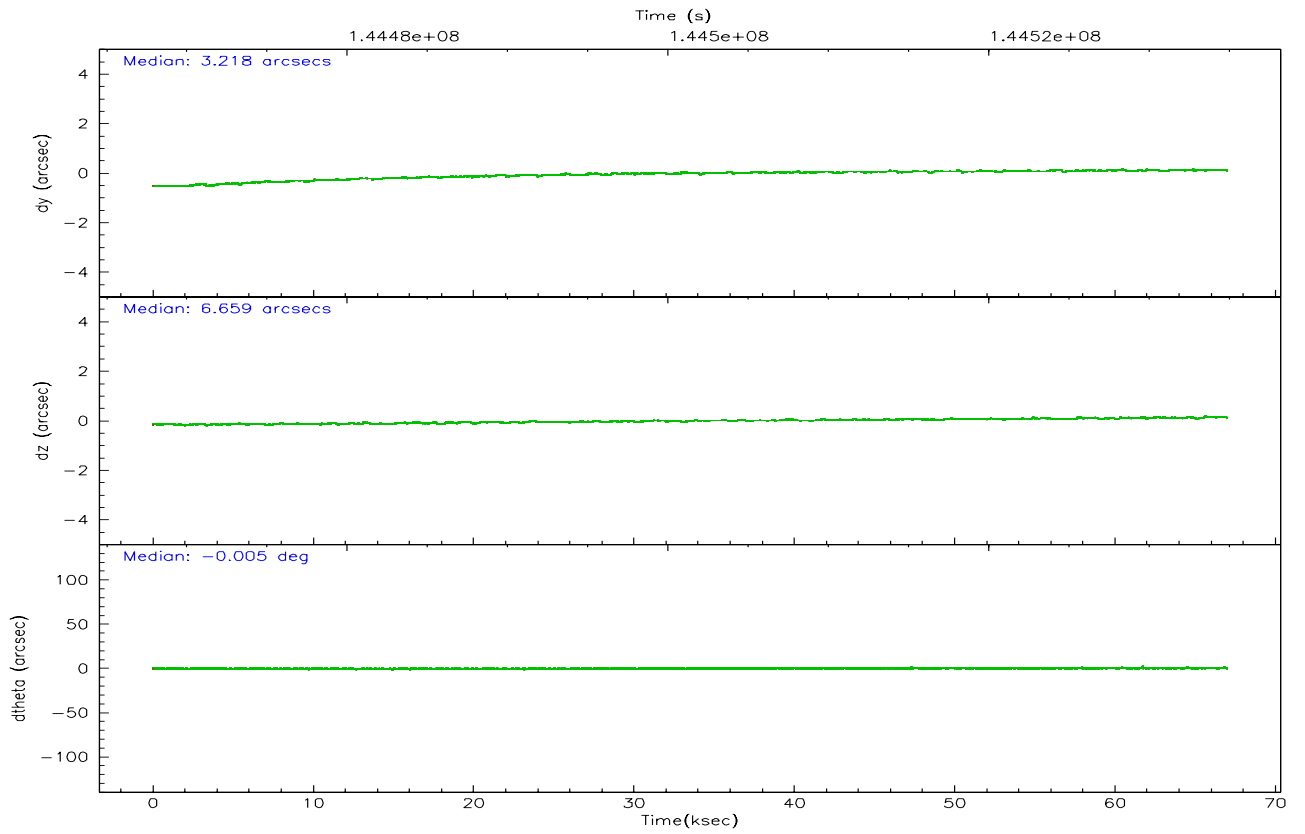
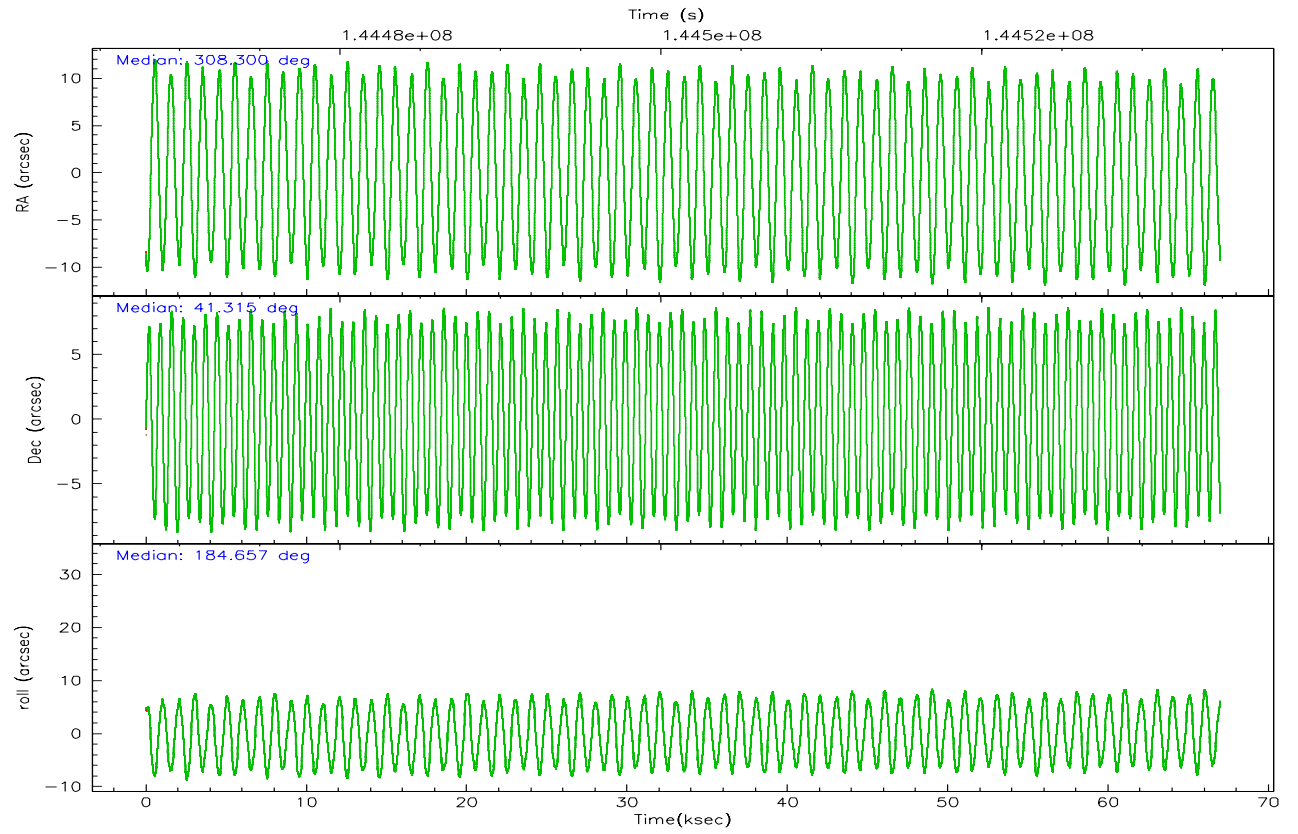


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	308.329644	308.3000741939238	Subarray requested	NONE	NONE
Pointing Dec	41.330725	41.31496155404972	Alternating exposures requested	N	N
Pointing Roll	184.488956	184.6651047216094	Primary exposure time	0.000000	3.2
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-190.132523	-190.1425803651734			
SIM translation stage offset (mm)	0	0.01005778216563158			
Observation start time	144468888.184000	144467528.37821			
Observation start date	2002-07-31T02:13:44	2002-07-31T01:52:08			
Observation end time	144534888.184000	144535559.16851			
Observation end date	2002-07-31T20:33:44	2002-07-31T20:45:59			
Read mode	TIMED	TIMED			

## 2.3 Aspect



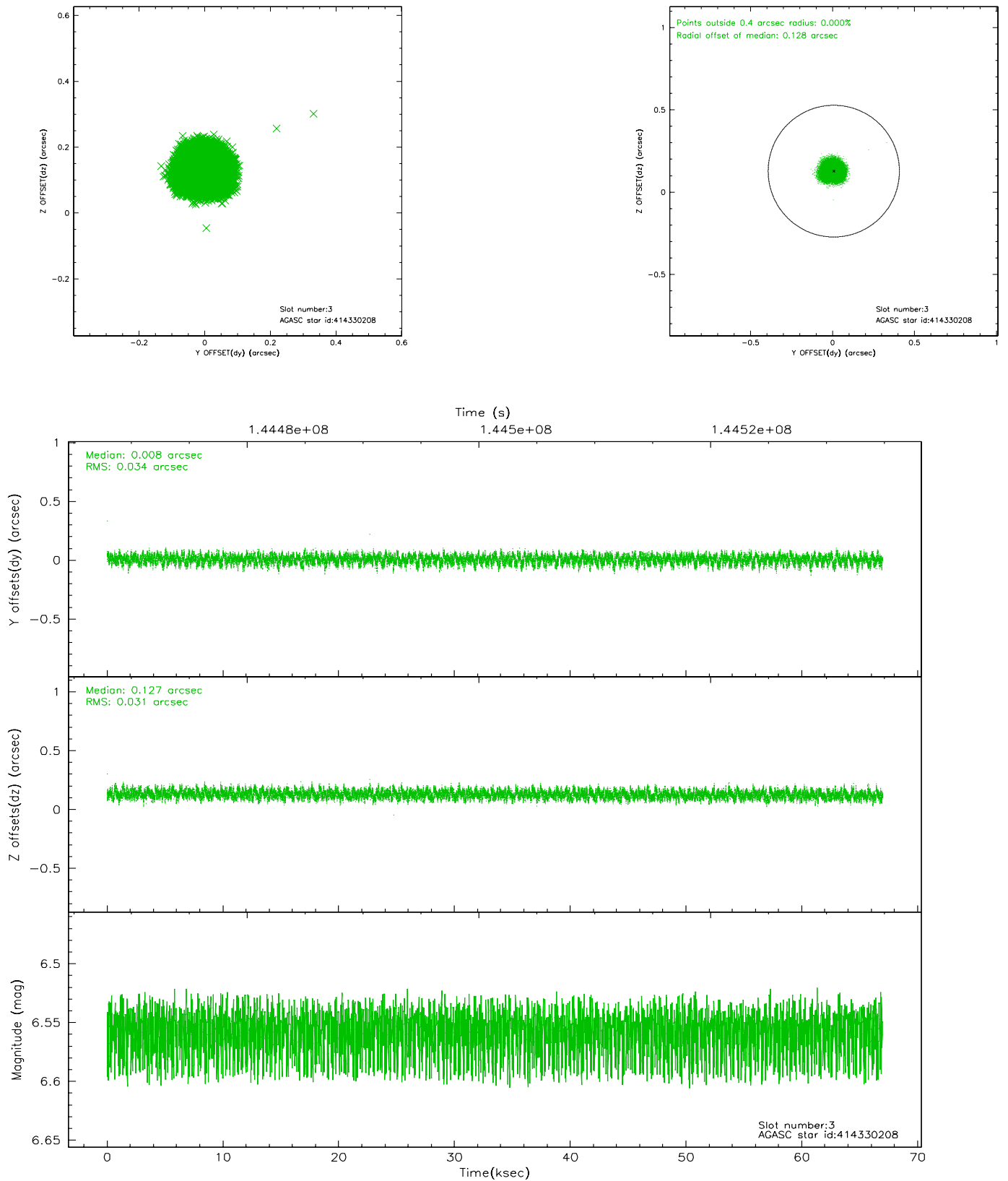


### Slot Statistics

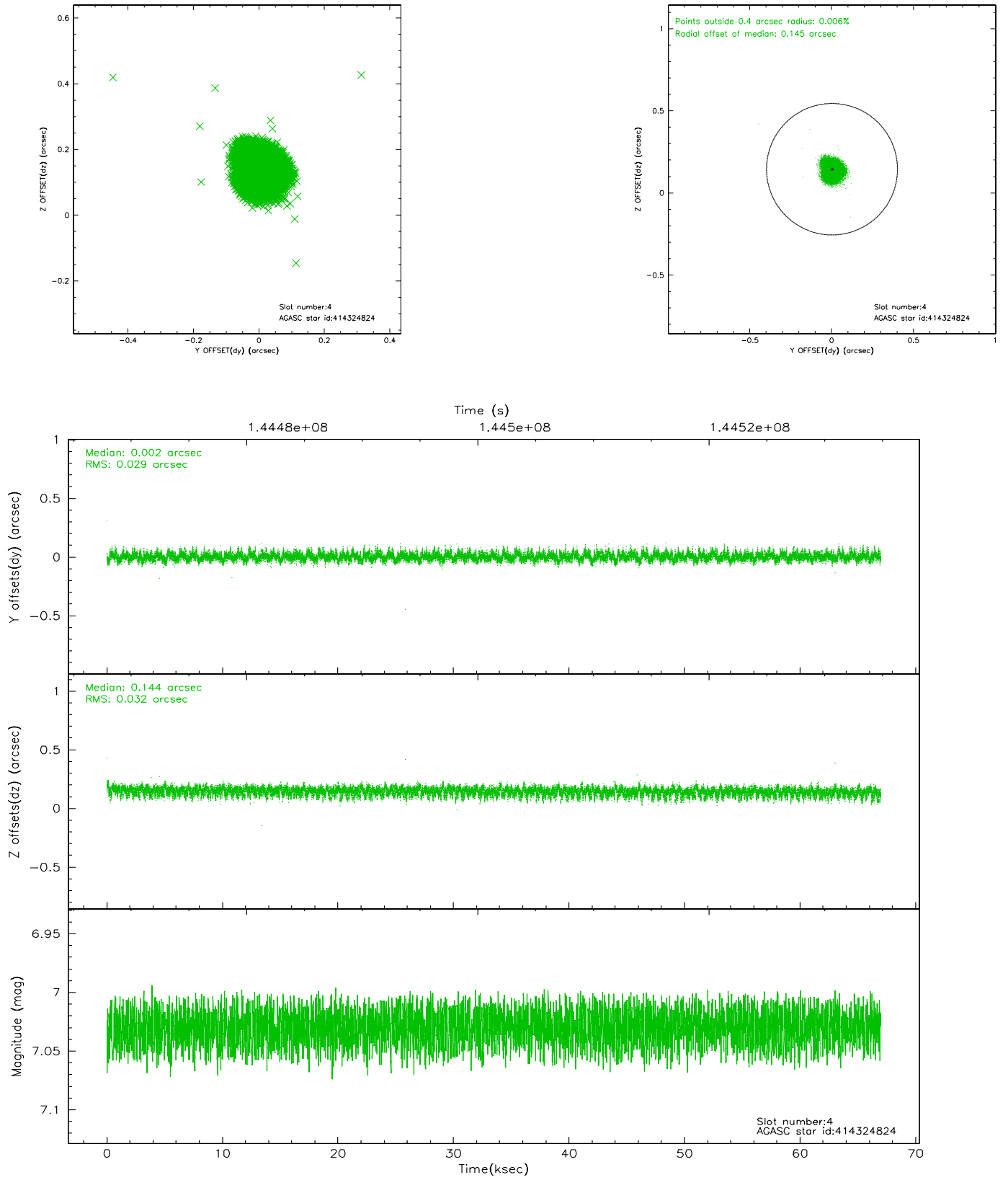
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	16338	-0.013	0.032	0.008	0.013	0.000000	0.000000	-755.78	-1727.73
1	FID	ACIS-S-4	7.20	16334	-0.046	-0.002	0.008	0.015	0.000000	0.000000	2157.46	180.81
2	FID	ACIS-S-5	7.24	16338	0.027	-0.021	0.011	0.022	0.000000	0.000000	-1808.68	174.35
3	GUIDE	414330208	6.56	32675	0.008	0.127	0.050	0.077	308.825098	41.890180	-1481.34	-1906.80
4	GUIDE	414324824	7.03	32678	0.002	0.144	0.045	0.074	308.215183	41.898482	146.43	-2061.88
5	GUIDE	413805792	7.32	32674	-0.117	-0.016	0.047	0.075	307.778748	40.858024	1627.98	1575.52
6	GUIDE	413798232	8.29	32677	0.109	0.004	0.054	0.088	309.116117	41.044272	-2048.74	1186.53
7	GUIDE	413803744	8.85	32667	-0.003	-0.255	0.070	0.111	308.586342	40.704904	-522.49	2300.60

## 2.4 Star Slots

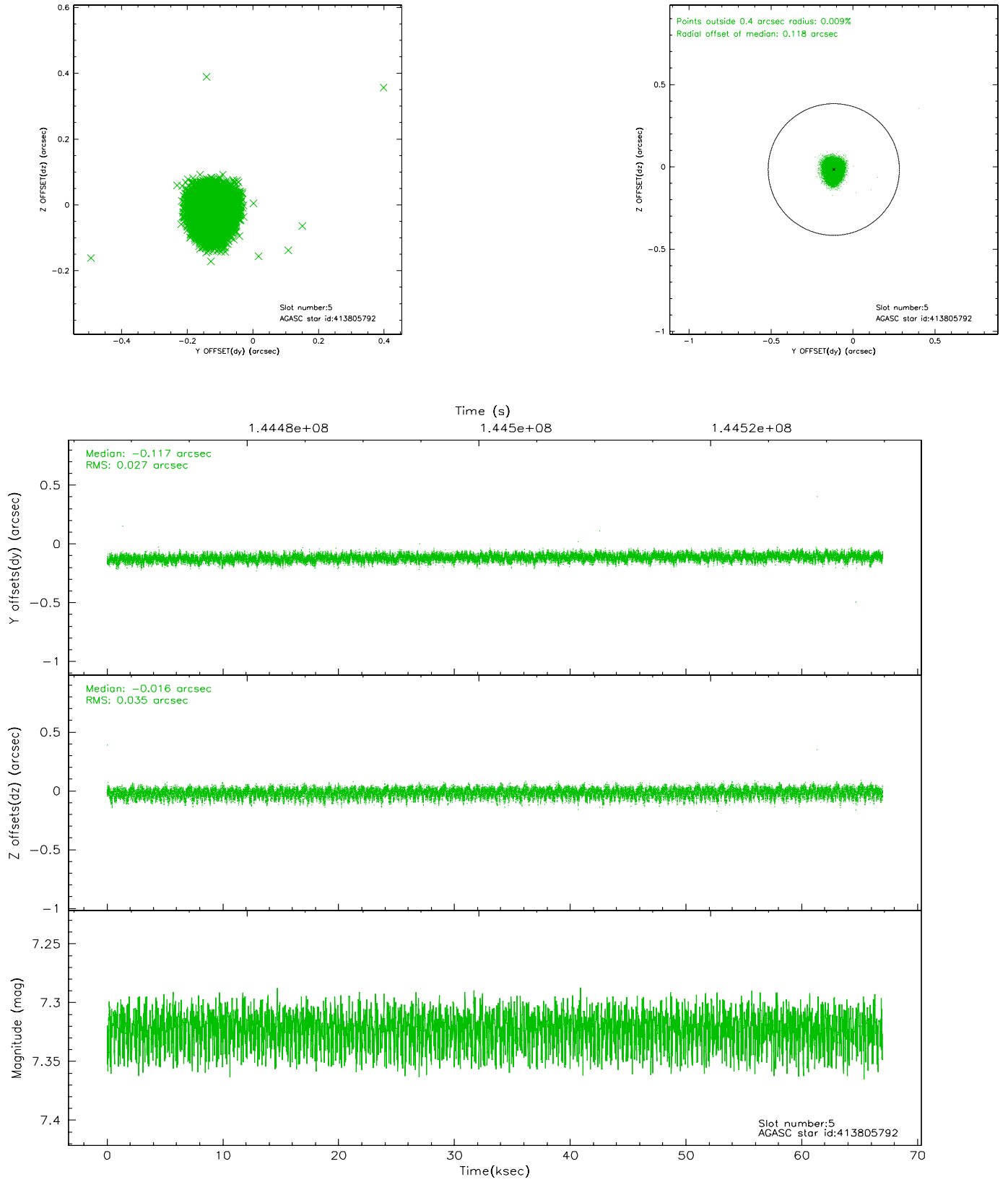
### 2.4.1 Slot 3



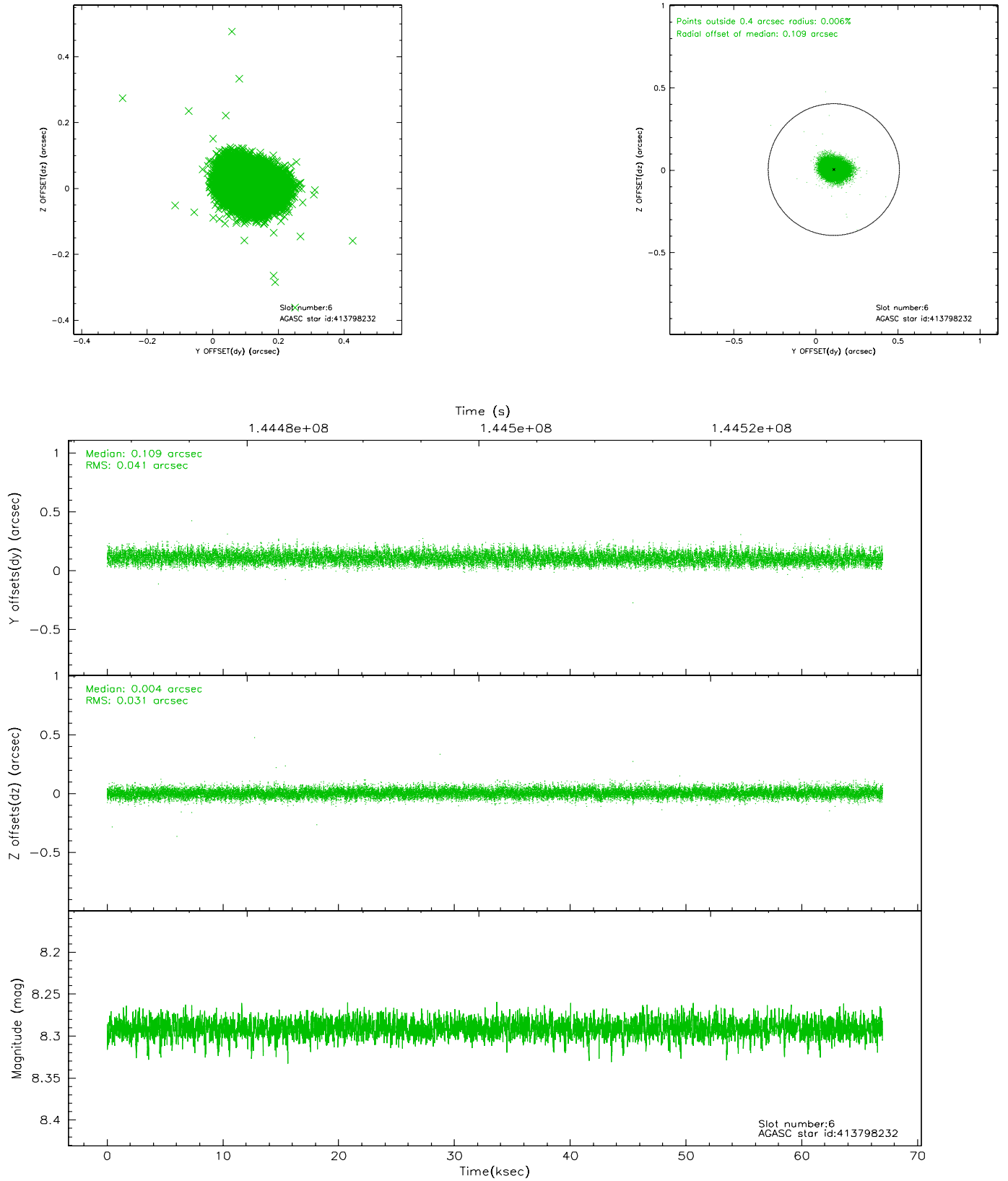
## 2.4.2 Slot 4



### 2.4.3 Slot 5

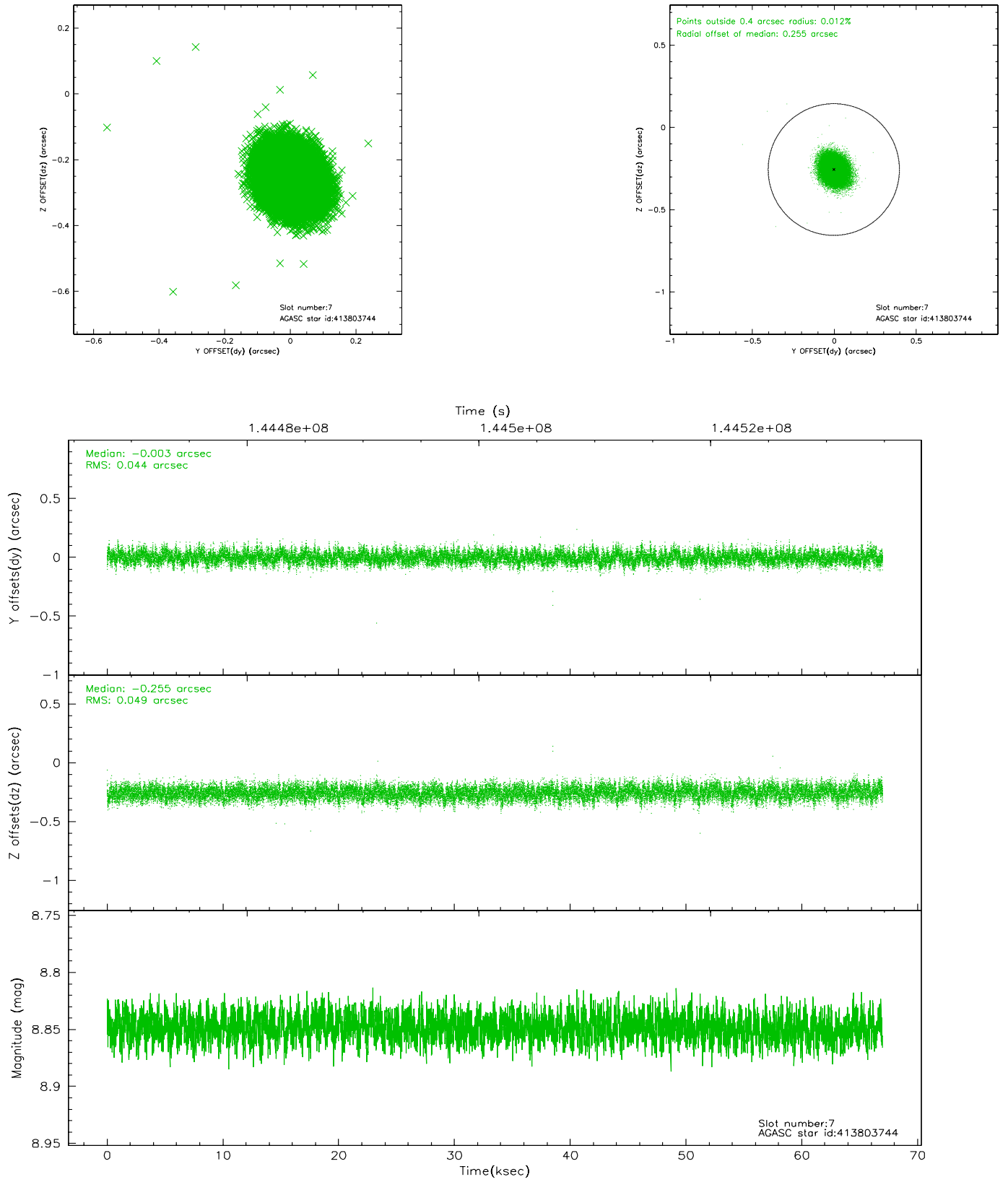


## 2.4.4 Slot 6



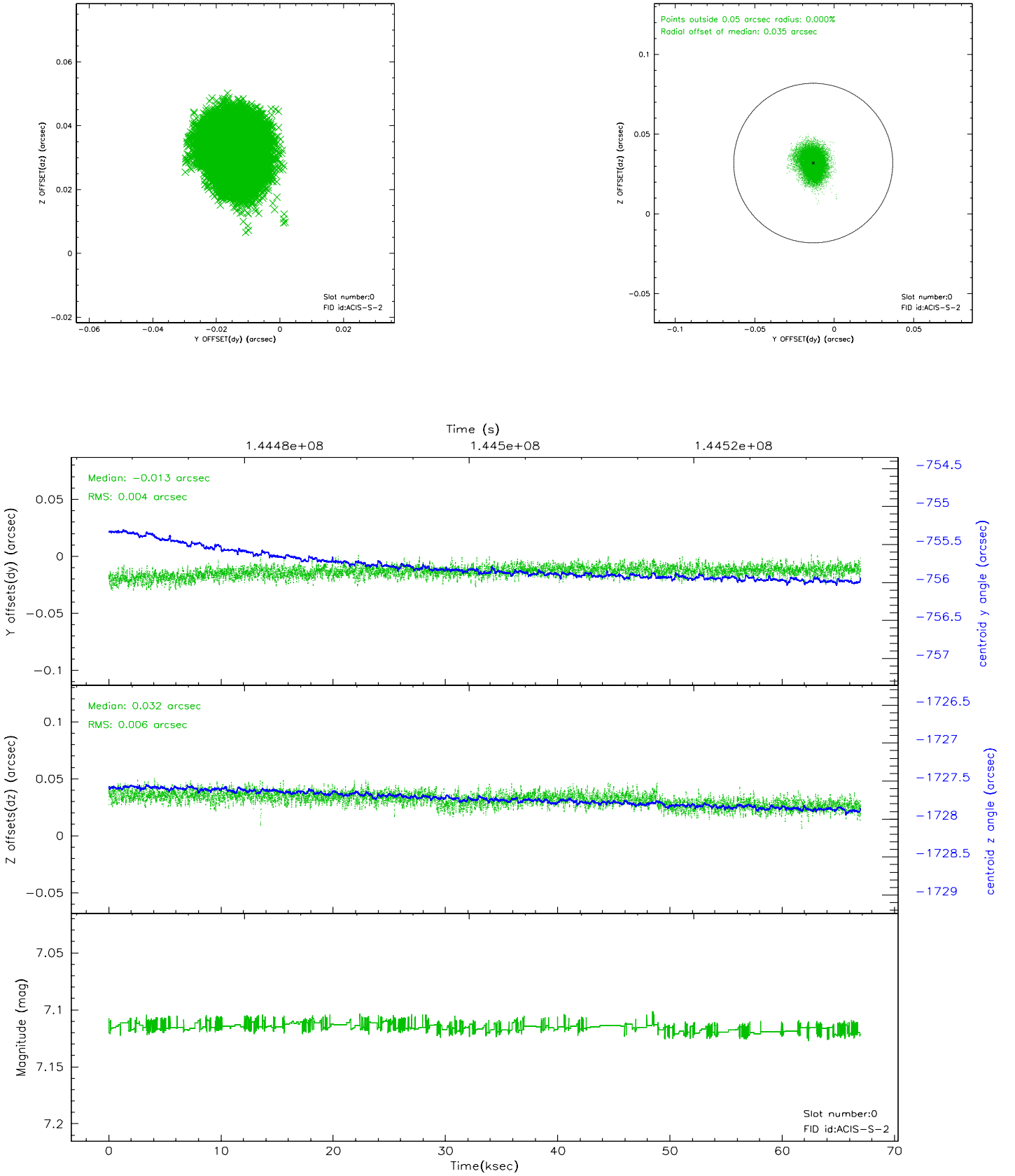


## 2.4.5 Slot 7

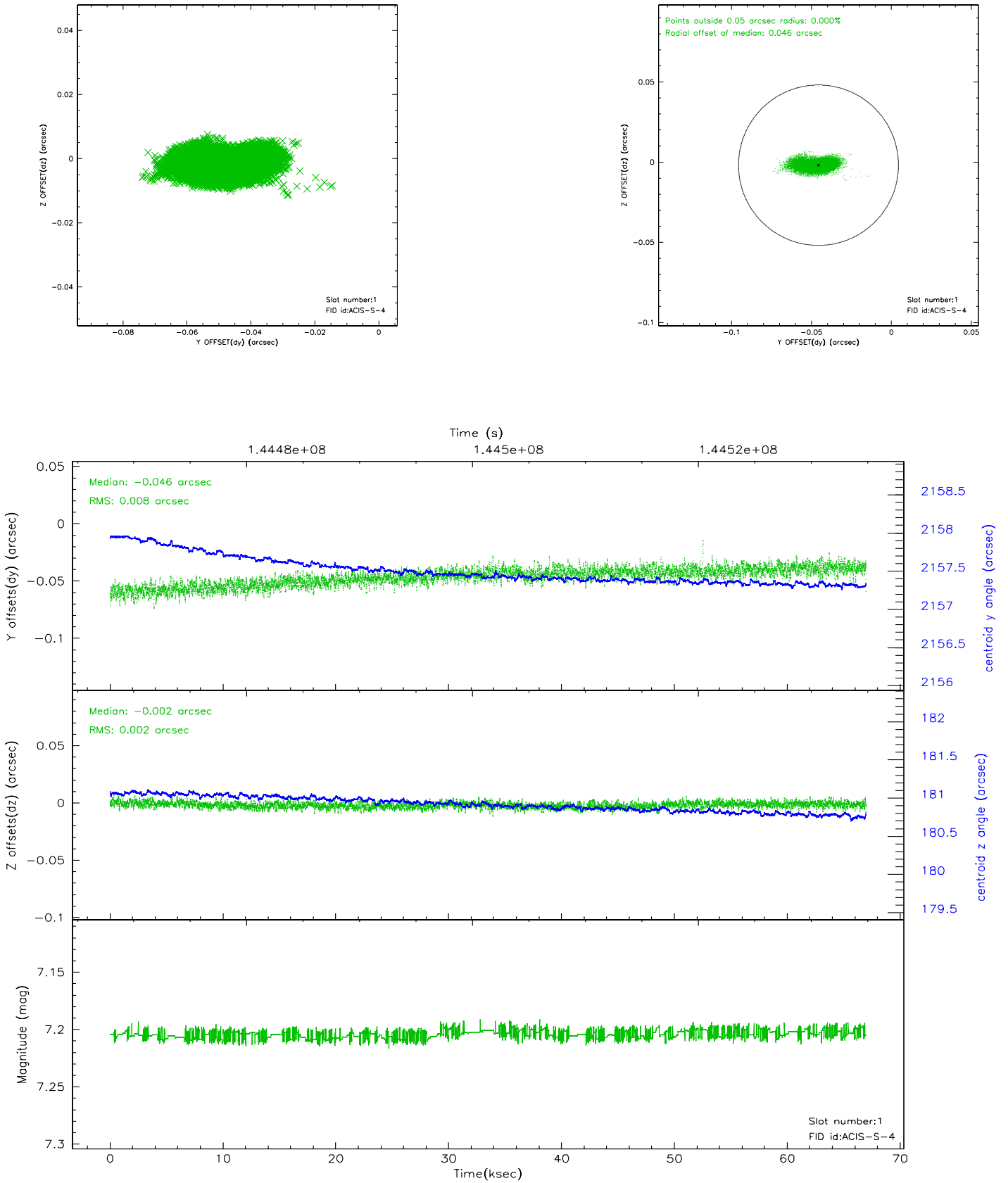


## 2.5 FID Slots

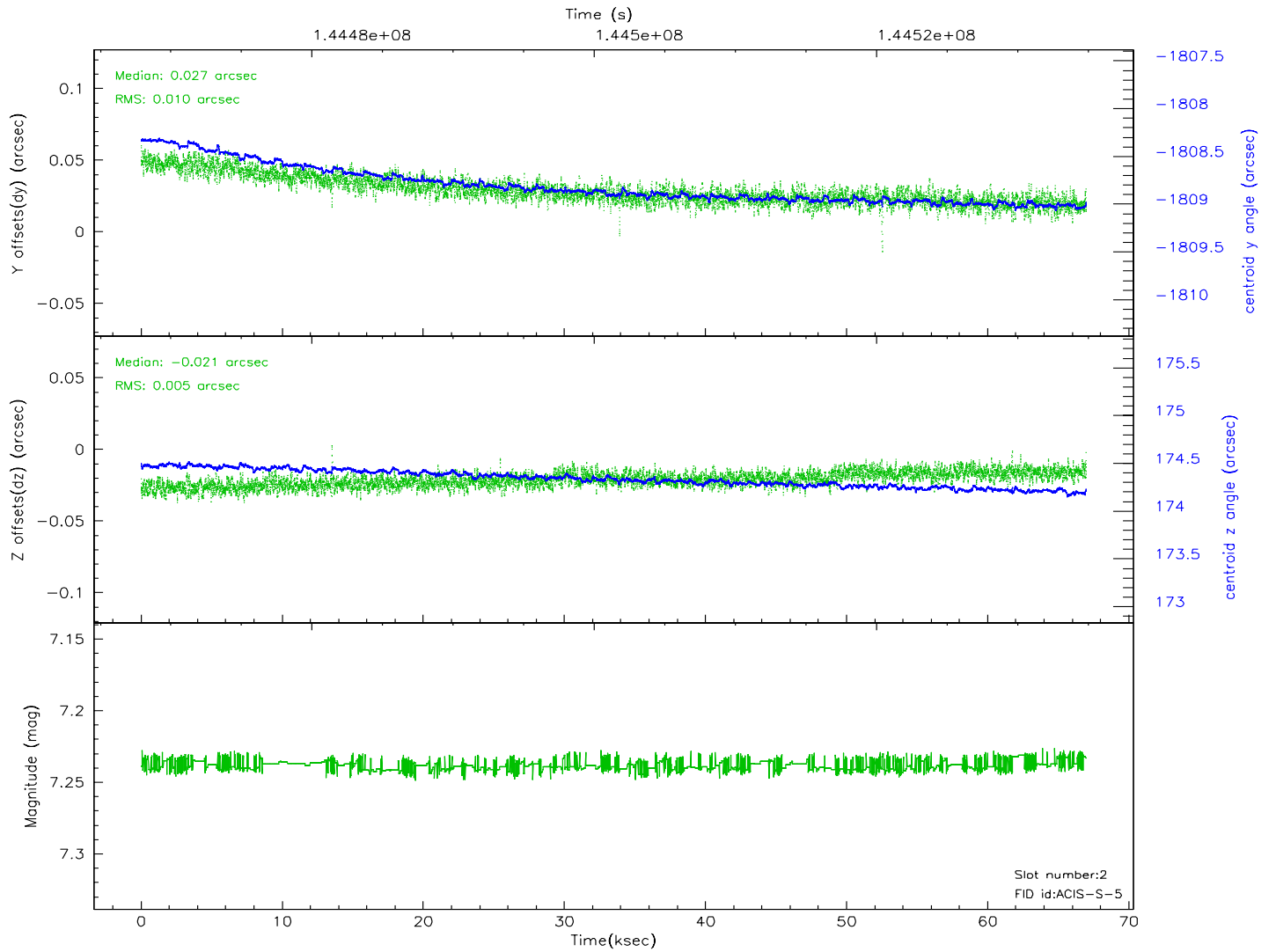
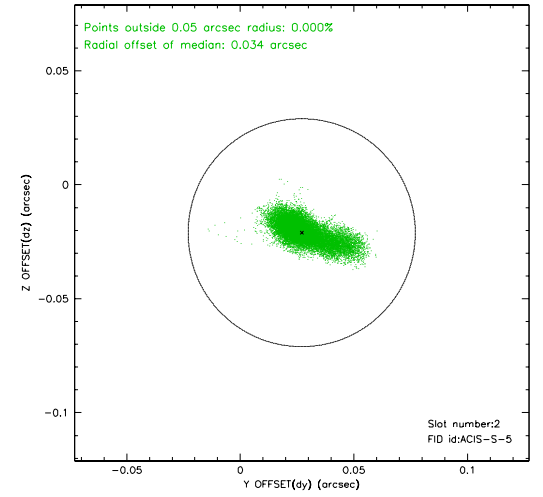
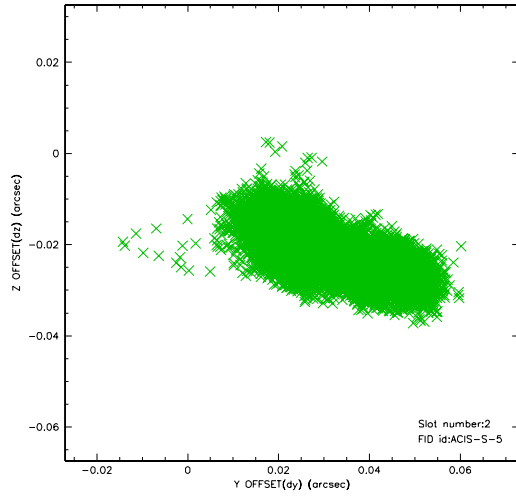
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

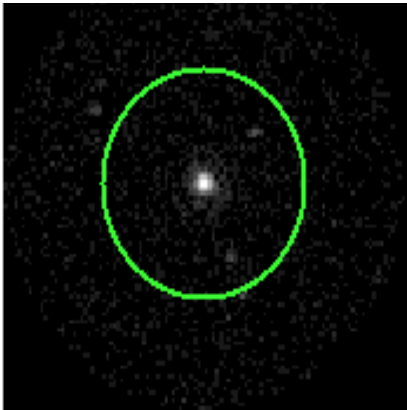


# 3 Gratings

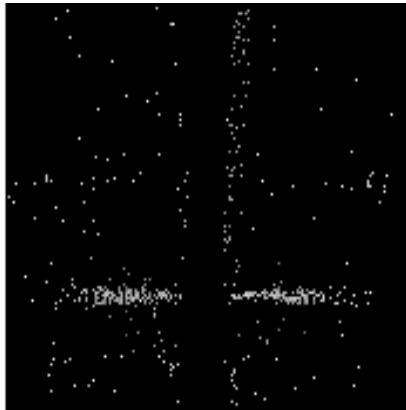
## 3.1 HEG Arm



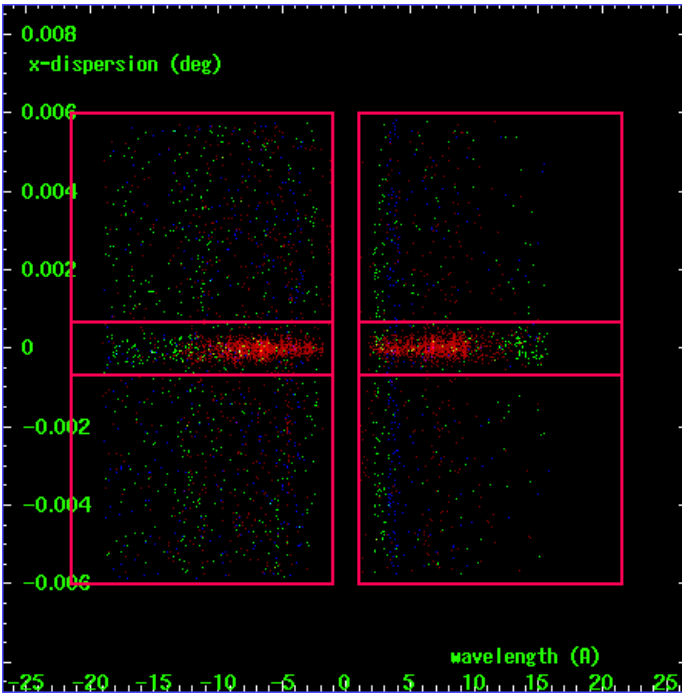
HEG Order Sort 123



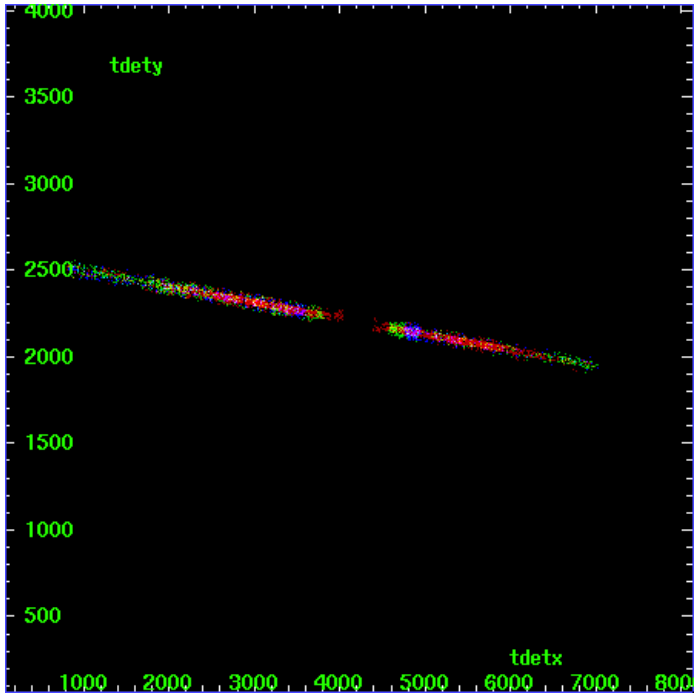
HEG Zero Order



HEG Order Sort ALL

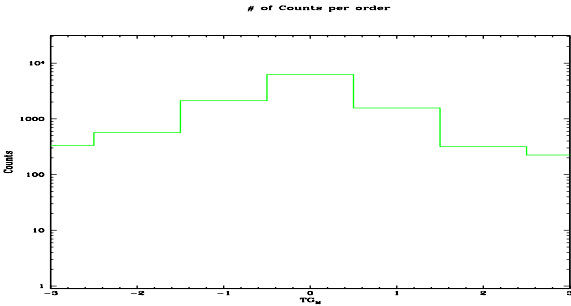


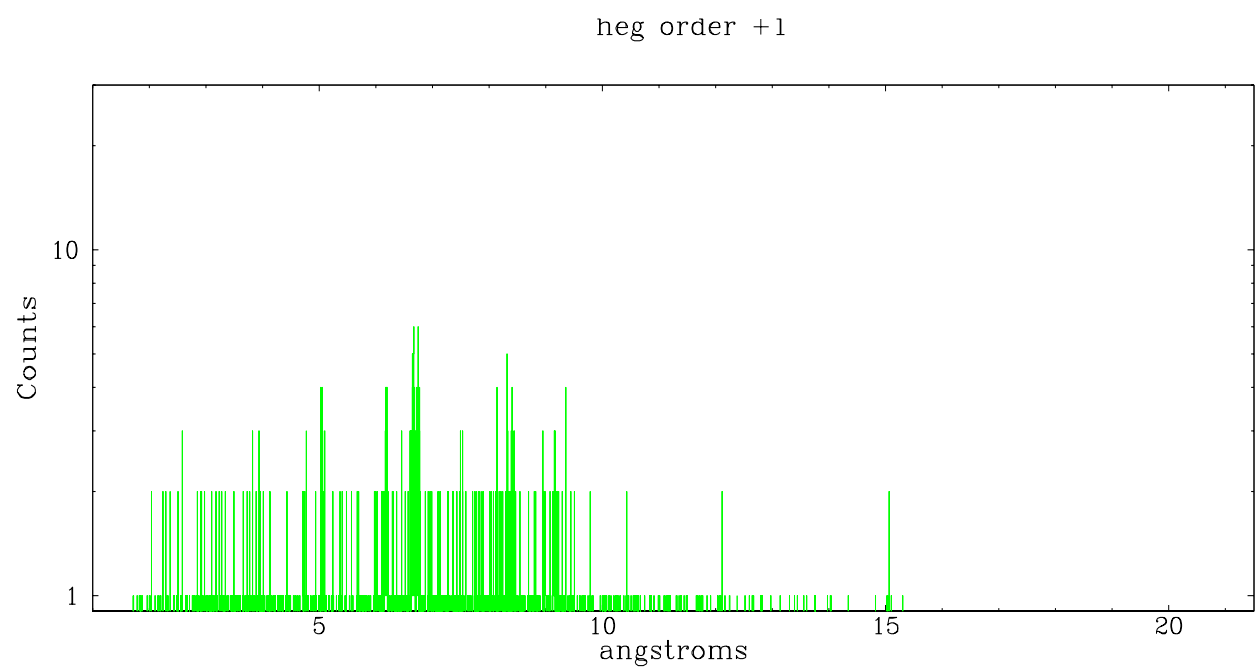
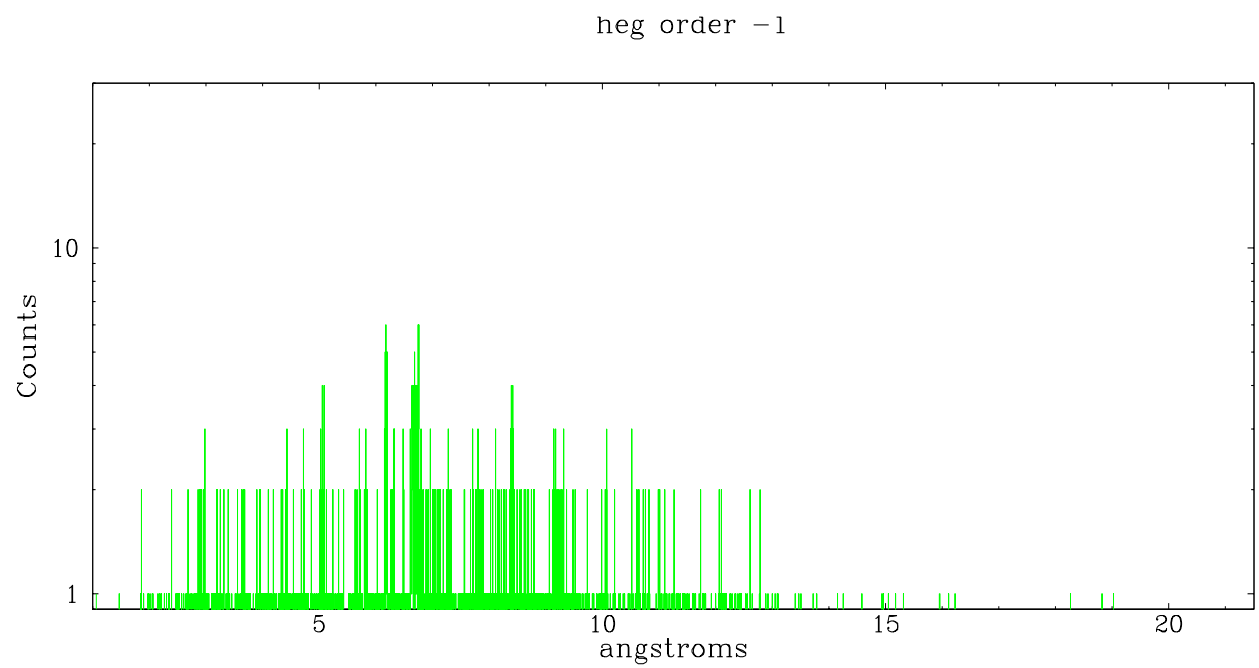
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	333	567	2123	6229	1570	319	224

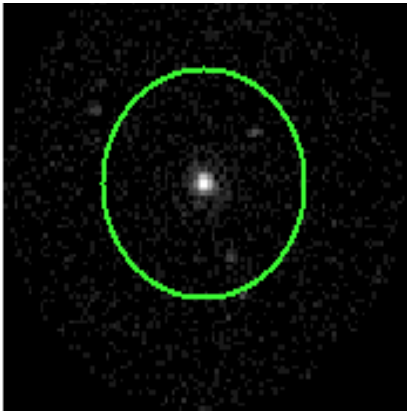




### 3.2 MEG Arm



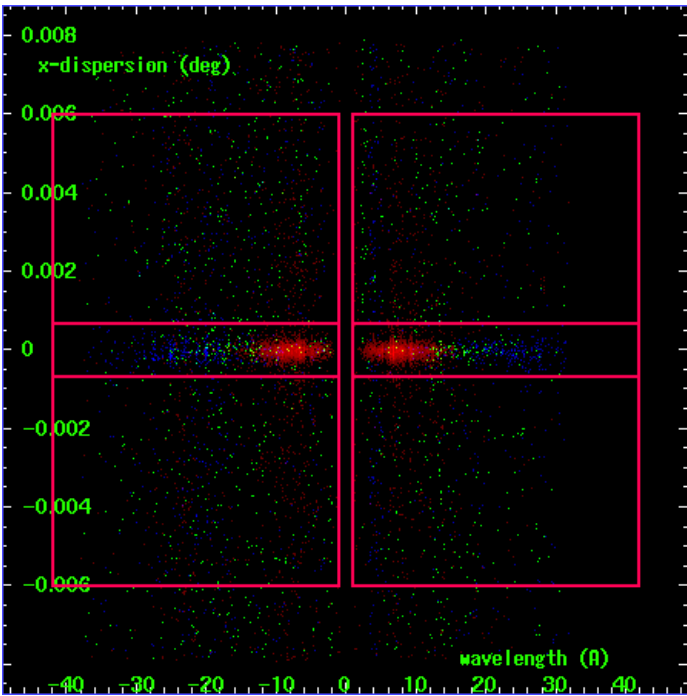
MEG Order Sort 123



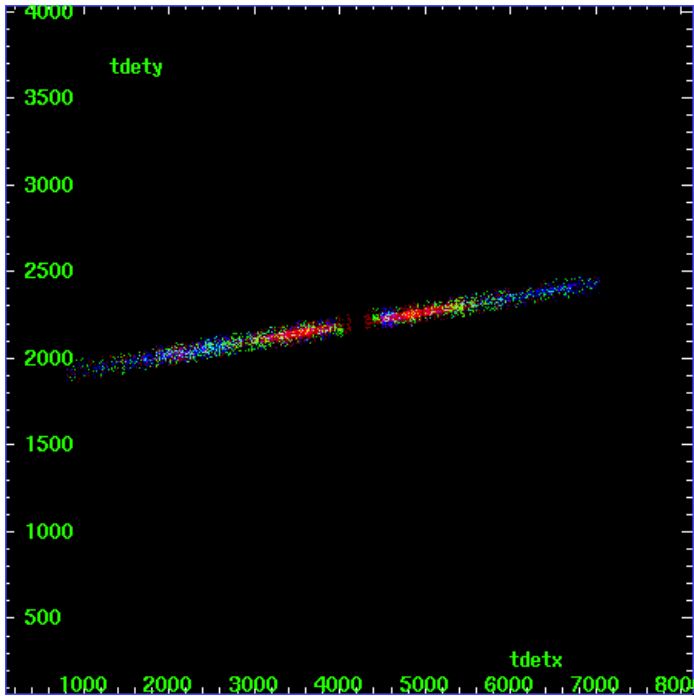
MEG Zero Order



MEG Order Sort ALL

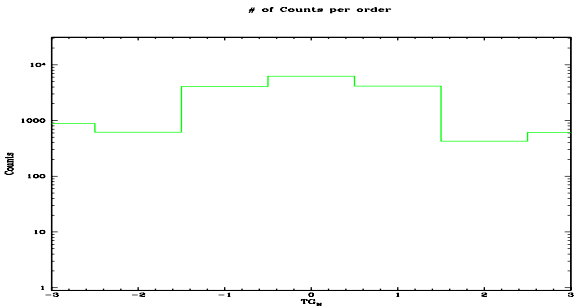


Spot Image MEG

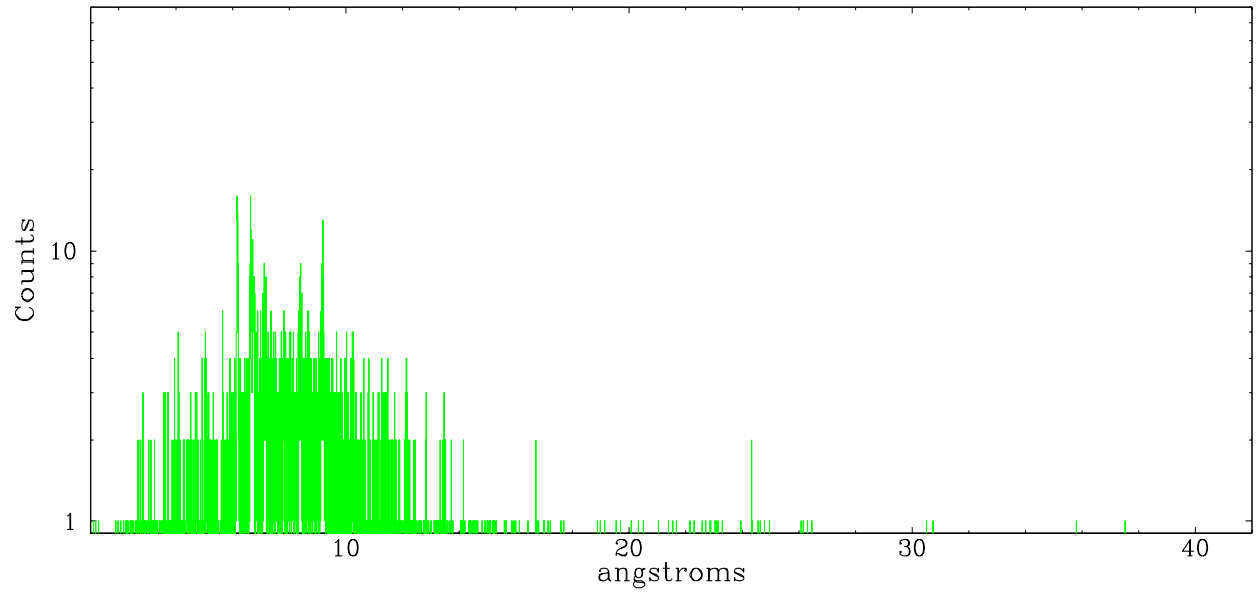


Full Detector MEG

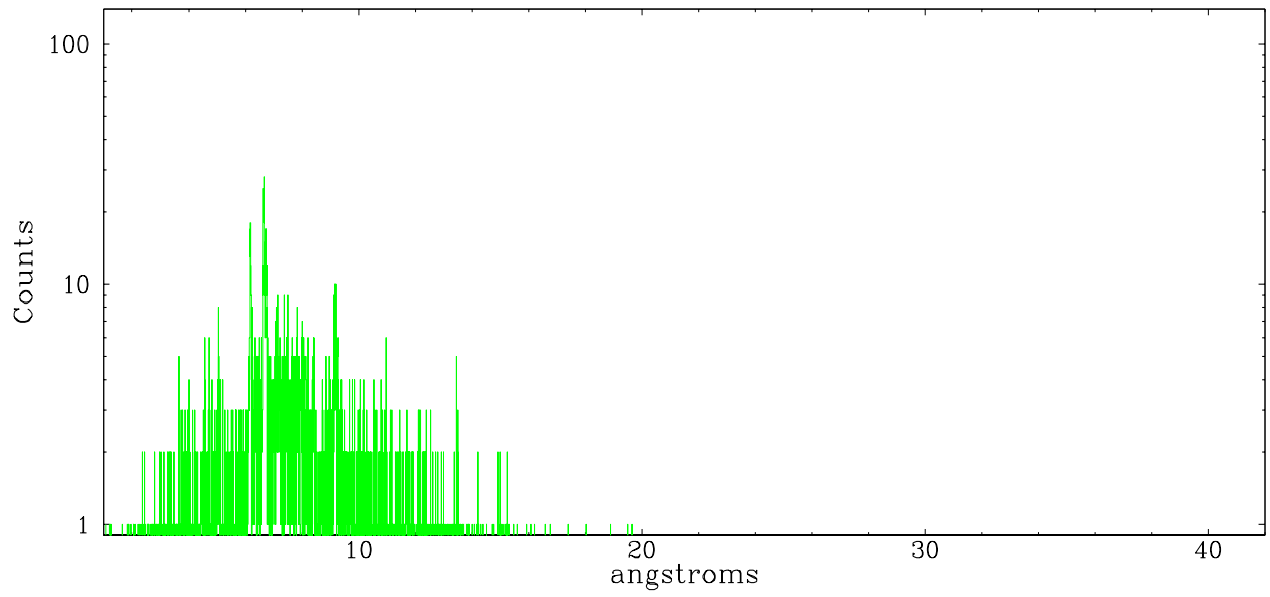
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	882	615	4093	6229	4148	425	612



meg order -1



meg order +1





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2006.10.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	65.955

## A.2 Comments

Several x-ray sources are present in this field and are included in the region defining the dispersed spectrum of the target. Spectrum could be re-extracted to separate the spectra of all the sources, which would produce a more accurate spectrum and background. Zeroth order image and dispersed spectrum of V729 Cyg present, although considerably off-acis. The dispersed spectrum of V729 Cyg and possibly other sources partially overlap the spectral arms of the dispersed spectrum of the primary target. Note that the standard pipeline processing only extracts the dispersed spectral data for one source, in this case the primary target Cyg OB28A. Extraction software must be run with custom parameters to extract all the spectra from all the sources simultaneously and be sure the events are sorted into the proper source and spectral order.

Analysis will be tricky because spectra for several sources are superimposed. User could possibly exploit asymmetry in plus and minus orders.